Claims

1. A substantially pure polypeptide functioning as an ASIC1a channel blocker.

2. The polypeptide according to Claim 1, extracted from venom of South-American tarantula *Psalmopoeus cambridgei*.

3. The polypeptide according to Claim 1, having a calculated molecular weight of about 4689 Da.

4. The polypeptide according to Claim 1, having reversible effects.

5. The polypeptide according to Claim 1, comprising an amino acid sequence represented by SEQ ID No.1 and pharmaceutically-acceptable salts thereof.

6. A nucleic acid molecule comprising an encoding nucleic sequence for a polypeptide according to Claim 1.

7. The nucleic acid molecule according to Claim 6, whose amino acid sequence is represented by SEQ ID No. 1.

8. A polyclonal or monoclonal antibody directed against a polypeptide according to Claim 1, a derivative or a fragment of these.

9. A vector comprising at least one molecule of nucleic acid according to Claim 6 and adapted control sequences.

10. A cellular host transformed by one molecule of nucleic acid according to Claim 6.

11. A cellular host transformed by a vector according to Claim 9.

12. A nucleic or oligonucleotide probe prepared from one molecule of nucleic acid according to Claim 6.

13. A pharmaceutical composition containing a polypeptide according to Claim 1 or pharmaceutically-acceptable salts thereof and a pharmaceutically-acceptable carrier.

14. A method of manufacturing an ASIC1a channel blocker comprising the steps of:

(a) obtaining at least one *Psalmopoeus cambridgei* spider;

(b) obtaining venom from said spider by electrically milking said spider;

(c) separating toxins of said venom by reversed-phase chromatography;

(d) further separating components of said venom by cation exchange chromatography;

(e) recovering and isolating separated toxins of said venom; and

(f) combining said isolated toxin with a pharmaceutically acceptable carrier such that the toxin is capable of functioning as an ASIC1a channel blocker.

15. A substantially pure polypeptide functioning as an ASIC1a channel blocker and comprising the following amino acid sequence:

EDCIPKWKGCVNRHGDCCEGLECWKRRRSFEVCVPKTPKT

and pharmaceutically-acceptable salts thereof.

16. The substantially pure polypeptide defined in Claim 15 comprising the following amino acid sequence:

EDCIPKWKGCVNRHGDCCEGLECWKRRRSFEVCVPKTPKT.

17. The substantially pure polypeptide as defined in Claim 15, wherein the polypeptide has a calculated molecular weight of about 4689.

18. A substantially pure compound comprising the following amino acid sequence:

EDCIPKWKGCVNRHGDCCEGLECWKRRRSFEVCVPKTPKT.

19. A peptide isolated from the venom of the *Psalmopoeus cambridgei* spider and comprising the following amino acid sequence:

EDCIPKWKGCVNRHGDCCEGLECWKRRRSFEVCVPKTPKT.

20. A pharmaceutical composition containing a polypeptide comprising the following amino acid sequence:

EDCIPKWKGCVNRHGDCCEGLECWKRRRSFEVCVPKTPKT

or pharmaceutically-acceptable salts thereof and a pharmaceutically-acceptable carrier.

21. A composition functioning as an ASIC1a channel blocker comprising at least one toxin extracted from the *Psalmopoeus cambridgei* spider, said at least one toxin being capable of functioning as an ASIC1a channel blocker.

22. A composition as defined in Claim 15, wherein the effects of said at least one toxin are reversible.